

Calendar

Tuesday, July 25

12:00 p.m. Summer Lecture Series -
Auditorium

Speaker: H. Ray, Los Alamos National
Laboratory

Title: Neutrinos

3:30 p.m. DIRECTOR'S COFFEE

BREAK - 2nd Flr X-over

THERE WILL BE NO ACCELERATOR
PHYSICS AND TECHNOLOGY
SEMINAR TODAY

Wednesday, July 26

Fermilab ILC R&D meeting - Curia II

Speaker: J. Lykken, Fermilab

Title: The Physics Case for the ILC...in
24 Slides ---more or less

3:30 p.m. DIRECTOR'S COFFEE

BREAK 2nd Flr X-Over

THERE WILL BE NO FERMILAB
COLLOQUIUM THIS WEEK

[Click here](#) for a full calendar with links
to additional information.

Weather



Chance of Showers **89°/69°**

[Extended Forecast](#)

[Weather at Fermilab](#)

Current Security Status

[Secon Level 3](#)

Wilson Hall Cafe

TRAC attracts teachers with dreams of research



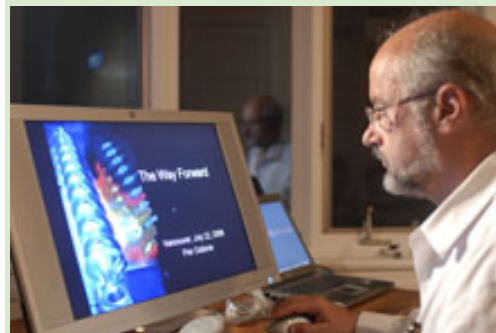
TRAC teacher James Orr looks through a testing device he and three others built from scratch. The machine will apply pressure and heat to PVC plastic that might be used in the NOvA neutrino detector, an experiment designed to investigate neutrino oscillation. [\(Click image for larger version.\)](#)

When James Orr was in high school, he knew he wanted to be a particle physicist. "I even built a cloud chamber when I was a student," Orr recalled. But stuck with a low draft number during the Vietnam War, fate intervened and Orr joined the U.S. Navy. Decades later, however, Orr says he is once again pursuing his dreams as a member in the Teachers Research Associates Program at Fermilab.

Since Fermilab created TRAC in 1983, almost 300 middle-through-high-school science, technology and mathematics teachers have participated in research projects under the leadership of engineers and scientists. Orr, an industrial technology instructor at North Boone High School in Polar Grove, Illinois, says he's excited about bringing his experience back to the classroom. "In the fall I'm going to take my students

Director's Corner

The Way Forward



The Vancouver Linear Collider Workshop/GDE meeting took place last week with some 300 participants from all over the globe. The workshop was composed of two meetings running in parallel: the first one on physics and detectors, and the second on the initial nearly-complete roll-up of the ILC cost. I had the honor of giving the [closing talk](#) in the final joint session of the workshop. The organizers had asked me to talk about "the way forward" and to be "inspiring."

The way forward starts with the extraordinary foundation laid last year, not only by the GDE, but also by the National Academy reports *Rising Above the Gathering Storm* and *Revealing the Hidden Nature of Space and Time* (EPP2010), the *European Strategy for Particle Physics*, and the initial P5 recommendations for a roadmap for particle physics in the US. The past year has set the stage for what promises to be an even more remarkable next year.

The GDE is well on its way to complete the ILC Reference Design Report (RDR) by the end of this year. This is a critical event in the development of the ILC. With the RDR in hand we will embark on a

Tuesday, July 25

- Golden Broccoli & Cheese
- Cheesy Greek Squeeze
- Coconut Crusted Tilapia
- Spaghetti w/Meatballs
- Toasted Almond Chicken Salad on Croissant
- Assorted Slice Pizza
- Chicken Fajitas

[Wilson Hall Cafe Menu](#)

Chez Leon**Wednesday, July 26****Lunch**

- Danish Open Sandwiches
- Cucumber Salad w/Dill
- Apple Walnut Cake w/Crème Chantilly

Thursday, July 27**Dinner**

- Grilled Calamari w/Garlic and Peppers
- Lamb Rib Chops
- Capponata
- Cannellini Bean Puree
- Gran Marnier Soufflé

[Chez Leon Menu](#)

Call x4598 to make your reservation.

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[Fermilab Result of the Week archive](#)

through the entire project with a slideshow," he said. "I want them to see how they can use their education to get involved."

Working with three others--Camellia Ivan, an Alden-Hebron high school mathematics teacher, and interns Christine Middleton and Gordon Merchant--Orr helped construct machines to test PVC plastics for the NOvA project's neutrino detector. Because the detector will operate for as long as 15 years, the plastics need to stand up to the punishment of time. "If you pull constantly on a piece of metal, over time it will stretch," Orr said. "We're looking further into this sort of creep in the PVC material."

To participate in the program, Orr travels 140 miles each day, five days a week from Byron, Illinois. "It's a long drive, but it's definitely worth it," Orr said. "For me, it's a dream come true and has exceeded any expectations I had."

--Dave Mosher

In the News**Scientific American, August 2006:****The Neutrino Frontier: At Fermilab, particle smashing yields to flavor changing**

Since 1983 researchers at the Fermi National Accelerator Laboratory in Batavia, Ill., have plumbed the subatomic realm by smashing high-energy protons and antiprotons together in the Tevatron, the world's most powerful particle collider. Next year, however, the high-energy frontier will move to Europe, where the even more powerful Large Hadron Collider will begin operations near Geneva. Fermilab intends to shut

global R&D plan with resources, milestones and a schedule for industrial buildup. We will start the next phase towards the Technical Design Report (TDR) which will be a complete engineering design. We will start discussing the process of site selection and whether or not the world can decide on a site "early" before the final decision to build is made. We will explore how the ILC project should be organized and what the relation of existing laboratories like ours will be to the ILC. Above all else, we will do all of this in a spirit of global collaboration.

In the meantime at Fermilab we are not waiting. With many collaborators across the globe we are tackling the difficult issues in designing, assembling and testing superconducting cavities and the cryomodules that hold them. We are designing many other elements of the machine, most importantly, the civil engineering necessary to host the ILC at Fermilab. We have created the ILC taskforce composed of Fermilab and university researchers to bring particle physicists into the design of the ILC. We have started the International Fellows program and we have created an ILC interest group of theorists and experimentalists within Fermilab with weekly meetings and discussions. We are also in the process of upgrading the test beam facilities that provide a broad range of particles across a wide momentum band and are a major world resource. Finally we are a leader in the outreach to the many constituencies whose support will be essential for building the ILC.

Accelerator Update

[Fermilab Safety Tip of the Week archive](#)

[Linear Collider News archive](#)

[Fermilab Today classifieds](#)

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down the Tevatron by 2010. But rather than scrapping the device, lab officials have outlined an ambitious plan to use some of the collider's parts to enhance a promising research program: the study of the mysterious neutrino, whose strange properties may offer clues to new laws of physics.

[Read More \(registration required\)](#)

July 21 -24

- Three stores provided 63 hours and 8 minutes of luminosity
- H-Source problems
- MTest beam disabled
- Booster WAPS trips
- ARF1 trouble
- Recycler has electron cooling trouble

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

Announcements

East entrance to close this Saturday

On Saturday, July 29, the Batavia Road east entrance will close for road seal coating and striping. The entrance will be reopened Sunday morning, July 30, at 6:00 a.m. The bicycle path will remain open during this period.

Scottish Country Dancing

Scottish Country Dancing will meet today, July 25, in Ramsey Auditorium in Wilson Hall. Instruction begins at 7:30 p.m. and newcomers are always welcome. Most dances are fully taught and walked through, and you do not need to come with a partner. Dancing will continue in the auditorium through the summer. Info at 630-840-8194 or 630-584-0825 or folkdance@fnal.gov.

NALWO coffee hour tomorrow

The Housing Office welcomes Fermilab women, guests and visitors to a coffee gathering at the picnic grounds of Kuhn Barn (or in Kuhn Barn, in case of rain) on Wednesday, July 26, from 10:30 a.m. to 12:00 p.m. Please join us for casual conversation and light refreshments; children are also welcome. If you have questions, please contact Cynthia at

cynalbr@earthlink.net or at
630.232.7476. Fermilab IDs are no
longer required to enter the lab, but you
will need photo identification.

[Upcoming Activities](#)